



RESEARCH COMMUNICATION

Note on the distribution of *Riccia beyrichiana* Hampe ex Lehm. (Ricciaceae: Marchantiophyta) in India

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Abstract

Riccia beyrichiana Hampe ex Lehm. is a more or less cosmopolitan species. In India, it was earlier known to be distributed in the Western Himalayas, Northeast India, Eastern Ghats of Andhra Pradesh and Western Ghats of Kerala. This species has now been collected in the Nilgiri Hills on the Western Ghats which is an addition to Tamil Nadu. A detailed description of the species with a photographic plate and a distribution map is provided.

Keywords

Cosmopolitan, Nilgiri, liverwort, Western Ghats

Introduction

Riccia L. is a cosmopolitan liverwort genus with ca 150 species (1). In India, so far 43 species have been reported (2, 3) and for the Western Ghats 22 species have been reported (4, 5). This genus is known in Tamil Nadu by 15 species (3, 5, 6). While surveying the Bryoflora of the Nilgiri Hills on the Western Ghats, a species of *Riccia* was discovered which was later identified as *R. beyrichiana* Hampe. This discovery adds one more species to Tamil Nadu raising the number of species reported from the State to 16.

Riccia beyrichiana Hampe has a cosmopolitan distribution. In India, it was earlier known to be distributed in the Western Himalayas, Northeast India, Andhra Pradesh part of the Eastern Ghats and Kerala part of the Western Ghats. This species has now been collected in the Nilgiri Hills, part of the Western Ghats, distant from the location from where it was already reported and happens to be an addition to Tamil Nadu. A detailed description of the species with a photographic plate and a distribution map is provided.

Riccia beyrichiana Hampe ex Lehm., Nov. Stirp. Pug. 7: 1. 1838; K.P. Srivast., Bull. Lucknow Natl. Bot. Gard. 104: 25. 1964; S.K. Singh & D.K. Singh, Cryptog. Bryol. 28: 260. 2007; S.K. Singh, Int. J. Sus. Wat. Env. Sys. 6: 36. 2014; H.O. Kiremit et al., Cryptog. Bryol. 37: 21. 2016; A. Lavoie, Carn. Bryol. 18: 2. 2017; N.P. Devi et al., Int. J. Adv. Res. 6: 708. 2018; S.S. Choi et al., J. Asia-Pacific Biodiv. 13: 746. 2020; A. Sreenath & B.R.P. Rao., Int. J. Adv. Res. Biol. Sci. 8: 201. 2021. - *Holotype*: North America, Georgia, between Jefferson and Gainesville, 13 August, 1833 C. *Beyrich s.n.* (S) (*vide* 11).

Plants monoecious, in isolated patches, dull-green. Thalli 3-5 × 2-6 mm, once or twice dichotomously branched; segments oblong, broadly acute to truncate at apex, hyaline-bordered at margin; dorsal groove distinct, narrow at apex and almost disappearing towards base, 0.88-1.12 × 0.14-0.17 mm in cross-section; epidermal cells 24-42 × 18-39 µm thin-walled, hyaline;

ventral scales *ca.* 0.32 × 0.048 mm, inconspicuous, membranous, hyaline, sometimes purple-tinged. Rhizoids both tuberculate and smooth. Antheridial neck conspicuous *ca.* 66 × 60 μm. Sporogonia along dorsal groove, conspicuous. Spores 132-150 × 102-132 μm, brown to dark brown, 7-9-reticulate on distal face, projecting at corners of reticulations, covered by a delicate, papillose, crenulate yellowish membrane; triradiate mark distinct (Fig. 1).

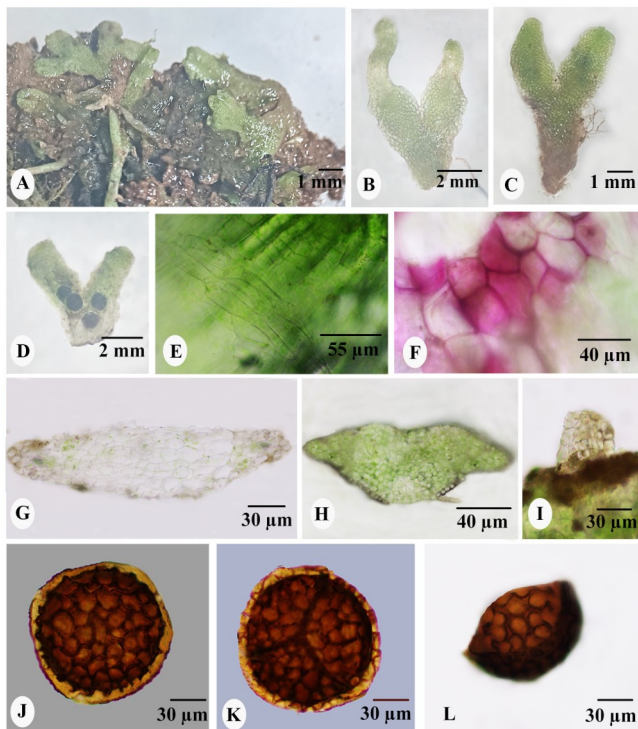


Fig. 1. *Riccia beyrichiana* Hampe ex Lehm. **A.** Plant **B–C.** Thallus **D.** Thallus with sporogonia (Ventral view) **E.** Portion of thallus showing ventral scales **F.** Purplish ventral scales **G–H.** Cross section of thallus **I.** Antheridial neck **J.** Distal face of spore **K.** Proximal face of spore **L.** Spore: Equatorial view (*B. Dhanyasree 647b*).

Habitat: Terricolous, in Tea plantations (*Camellia sinensis* (L.) Kuntze) at an altitude of *ca.* 974 m with *Anthoceros subtilis* Steph.

Distribution: Africa, North America, Europe, Micronesia, Asia and India: Western Himalayas, Northeast India, Eastern Ghats of Andhra Pradesh and Kerala part of the Western Ghats and Tamil Nadu (Nilgiri) (present study).

Specimens Examined: India: Tamil Nadu, Nilgiri Dist., Mangorange, ± 974 m, 4 July 2022, *B. Dhanyasree 647b* (SCCN).

Discussion

Riccia beyrichiana is a gregarious species growing in incomplete to complete rosettes as terricolous and rupicolous forms in the vicinity of water sources in semi-dry hill-tops (2). The present collection was made in a tea plantation at an altitude of *ca.* 974 m. This pattern of distribution indicates that *R. beyrichiana* is a moisture-loving species. Although *R. beyrichiana* shows a continuous distribution outside the country, its occurrence within the country is patchy. This patchy distribution of the species could be as a result of

inadequate and sporadic floristic studies made within the country. It commonly occurs in the Northeastern part of India and is distributed in the Western Himalaya (2, 7) and in the Eastern and Western Ghats in the Peninsula (2) as well. The present discovery extends its distribution to Tamil Nadu in the South (Fig. 2).

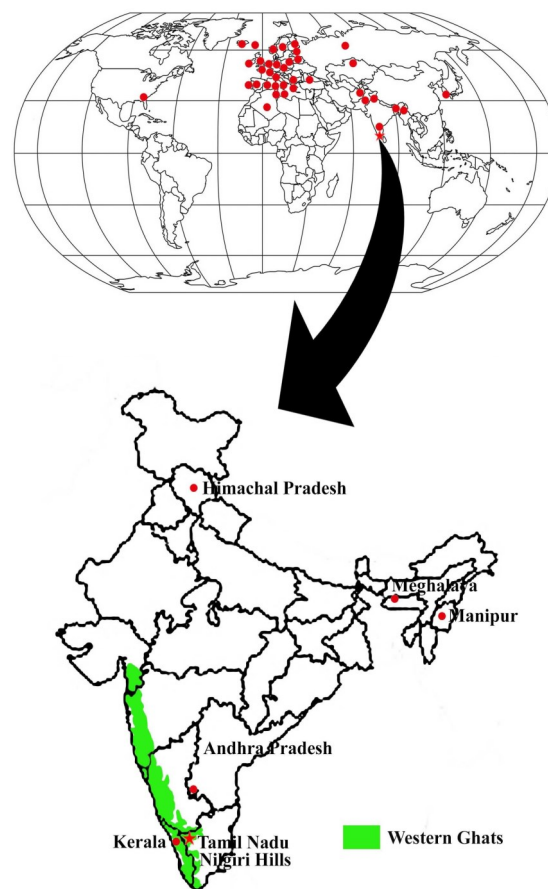


Fig. 2. Distribution of *Riccia beyrichiana* Hampe ex Lehm.

- Earlier records
- ★ Present record for Western Ghats in Nilgiri Hills

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Authors contributions

BD: Collection, dissection and preparation of figure and photographic plates; AEDD: Identification and preparation of the MS.

Compliance with ethical standards

Conflict of interest: The authors declare that they have no competing interests.

Ethical issues: None.

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